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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,231	10/31/2001	Michael S. Rothberg	K35A0840	7852

26332 7590 08/06/2004

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EXAMINER

ELAMIN, ABDELMONIEM I

ART UNIT PAPER NUMBER

2116

DATE MAILED: 08/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/004,231

Applicant(s)

ROTHBERG, MICHAEL S.

Examiner

A Elamin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/31/2001</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-28, are rejected under 35 U.S.C. 103(a) as being unpatentable over Lenny et al, US. Pat. No. 6,600,614 in view of Watts, US. Pat. No. 6,336,161.

3. Claims 1, 13-15 and 27-28, Lenny teaches a disk drive connectable to a host computer executing a computer program for sending a Self Monitoring Analysis and Reporting Technology (SMART) command to the disk drive, the disk drive, [title, abstract] comprising:

(a) a disk [108 of Fig. 2];

(b) a head actuated radially over the disk [118 of Fig. 2];

(c) an error recovery system for detecting and correcting errors in user data read from the disk [col. 9, lines 49-60];

(d) a cache system for caching user data received from the host computer and user data read from the disk [inherently, disk drives comprise a cache for caching user data received from the host computer and user data read from the disk] ;

(f) an interface for receiving the SMART command from the host computer, the SMART command comprising; a command code comprising a predetermined value for identifying the command code as a SMART command; a sub command comprising one of a plurality of predetermine values identifying one of a plurality of SMART commands selected from the

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group consisting of enabling SMART diagnostics, reading diagnostic data, and transmitting setup data to the disk drive; and setup data for modifying the configuration parameters [*col. 2, lines 21-55, col. 6, lines 18-36*].

Lenny fails to teach a plurality of configuration parameters stored in a non-volatile manner for configuring at least one system when the disk drive is powered on, the at least one system selected from the group consisting of the cache system and the error recovery system.

Watts teaches a computer system provides a user the ability to restore operation to a previous state from a non-volatile semiconductor memory [*abstract, Figs 2a, 2b, 3a and 3b, col. 4, lines 8-67*].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Lenny to include a plurality of configuration parameters stored in a non-volatile manner for configuring at least one system when the disk drive is powered on, the at least one system selected from the group consisting of the cache system and the error recovery system, because it provide the following advantages:

First, the hard drive is not used until it has been properly initialized.

Second, prior operation state of the computer system can be quickly restored upon power-up.

Third, the user can return to the exact state prior to power down, without reloading application programs and files.

Fourth, since returning to a prior state is simplified, the computer system may be powered down more often, resulting in vastly improved power use.

Fifth, the amount of non-volatile semiconductor memory can be added as needed [*see Watts, col. 2, lines 38-49*].

4. Claims 2 and 16, Watts teaches (a) the disk drive further comprises a volatile semiconductor memory; (b) when the disk drive is powered on, the configuration parameters are copied to the volatile semiconductor memory; and c) the setup data for modifying the configuration parameters stored in the volatile semiconductor memory for configuring the at least one system on-the-fly [*abstract, Figs 2a, 2b, 3a and 3b, col. 4, lines 8-67*].

5. Claims 3-5 and 17-19, Lenny teaches the error recovery system comprises a plurality of retry procedures responsive to the configuration parameters [*col. 9, lines 49-60*].

6. Claims 6-7 and 20-21, Lenny teaches a write-verify system for verifying a write operation by verifying recoverability of written data, wherein the at least one system configured using the configuration parameters includes the write-verify system [*col. 5, lines 37-45*].

7. Claims 8-9 and 22-23, Watts teaches (a) the cache system comprises a semiconductor memory; (b) the cache system reserves a block of the semiconductor memory for caching data read from the disk during a read operation; and (c) the configuration parameters for configuring when the cache system releases the reserved block of semiconductor memory [*Fig. 1, col. 3, line 23 thru col. 4, line 7*].

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8. Claims *10-11 and 24-25*, Lenny teaches (a) the cache system comprises a semiconductor memory; (b) the disk comprises a plurality of tracks; (c) each track comprises a plurality of sectors; and (d) the configuration parameters for configuring a number of sectors read into the semiconductor memory during a read operation following a target sector of the read operation [*Fig. 2, col. 3, line 35 thru col. 4, line 60*].

9. Claims *12 and 26*, Lenny teaches e computer program comprises a graphical user interface for generating the setup data in response to user input [*col. 5, line 61 thru col. 6, line 5*].

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to A Elamin whose telephone number is (703)305-3804. The examiner can normally be reached on MON-FRI 9:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne Browne can be reached on (703) 308-1159. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A Elamin
Primary Examiner
Art Unit 2116

August 3, 2004

A handwritten signature in black ink, consisting of a large, stylized 'A' followed by a series of loops and a long horizontal stroke extending to the right.

A. ELAMIN
PRIMARY EXAMINER